REMARKS

General remarks.

Claims 3-12 are all the claims pending in the application. Claims 1-2 have been canceled, and new claims 11 and 12 have been substituted. No new matter has been added.

The claims have been extensively revised so as to overcome the rejection under 35 USC § 112, and for improved clarity.

Drawing objection.

The Examiner indicated on the Office Action Summary that the drawings are objected to by the Examiner, but Applicant does not find in the Office Action any explanation for the objection. Applicant notes with interest the PTO948, but if the Examiner has any different objection to the drawings then the Examiner is respectfully requested to elaborate on the objection or to withdraw it.

Claim objection.

Applicant respectfully requests the Examiner to withdraw the objection to claim 10 in view of the self-explanatory changes shown above and in the enclosed appendix.

The objection to the specification.

The Examiner, apparently unfamiliar with the Internet Protocol Control Protocol, objected to the use of this term, and suggested that Applicant may have intended to use TCP/IP instead. Actually, the term used was the correct term, and applicant refers the Examiner to the following RFC which lays out the groundwork for the IPCP: RFC 1332. In view of the foregoing, applicant respectfully requests the Examiner to withdraw the objection to the specification.

Furthermore, applicant respectfully invites the Examiner to re-examine this application
with the understanding that the specification and claims relate to IPCP (as indicated in the
originally filed document) instead of TCP/IP.

Applicant respectfully requests the Examiner to withdraw the objection to the part of the
specification at page 5 in view of the correction of the informality shown above and in the
enclosed appendix.

The rejection under 35 USC § 112.

The Examiner rejected claims 4-6 and 8-10 under 35 U.S.C. § 112, first paragraph, as
containing subject matter which was not described in the specification in such a way as to enable
one skilled in the art to which it pertains, or with which it is most nearly connected, to make
and/or use the invention.

More specifically, the Examiner objected to the part of the claims relating to the
determination of whether a service level is satisfying or not. Applicant has revised the claims to
avoid limitations that would lead the person of ordinary skill to think that the claim included a
step of determining whether a given service level is satisfying or not. Instead, the claims (see, for
example, claim 4) have language along the following lines:

> 4. (Amended) The DTE according to claim 3,
> further comprising service level proposal
> renegotiating means, …, for generating
> another IPCP message requesting a service
> level, different from the proposed service
> level … in response to an indication that
> said proposed service level is not a
> satisfying service level.

The particular algorithm, for determining whether a service level is satisfying, is not the point of
the invention defined by the claims now on file. Renegotiation of the service level in the event
that the service level is not satisfying is the point of claims like claim 4. Therefore, the claim has
been rewritten to say that the renegotiation occurs "in response to an indication that said

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proposed service level is not a satisfying service level" without saying in the claims anything about how the state of satisfying or not satisfying is decided.

Furthermore, applicant respectfully submits that it is certainly well within the skill of the person familiar with this field to come up with some kind of algorithm or way for determining whether a service level is satisfying or not. Since enablement relates only to that which is claimed, and since the claims have been appropriately rewritten (as described above), applicant respectfully requests the Examiner to withdraw this rejection.

Also under section 112, paragraph 1, the Examiner rejected claims 5, 6, 9, and 10 for using the term "negotiating". In particular, the Examiner asserted that the term is not clear, and that the specification does not adequately define how the negotiating occurs.

The claims, as now rewritten, avoid the potential problems mentioned by the Examiner. The method claims do not include a renegotiation step. The language of claim 9 is representative:

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a service level negotiating and proposing
sub-module, … for determining a service
level that said DRE can provide … based on
at least one predetermined criterion and on
said requested service level, and
formulating, as a service level proposal, an
IPCP message indicating said determined
service level; and
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Here, the sub-module is called a "negotiating and proposing sub-module" to give an idea of its function, but what the claim requires is "determining a service level" based on some criteria, and "formulating ... an IPCP message indicating said determined service level". The functions of the module are clear from the revised language of the claim, and these functions are clearly well supported in the specification as originally-filed.

Applicant therefore respectfully requests the Examiner to withdraw this rejection in view of the claim amendments and the comments provided above.

The rejections over Hisanaga.

The Examiner rejected claims 1-3, 5-7, and 9-10 under 35 U.S.C. § 102(a) as being unpatentable over Hisanaga et al, USP 5,907,556 (hereafter referred to as Hisanaga), and rejected claims 4 and 8 as being obvious over Hisanaga. Applicant now addresses both of these rejections together in the following discussion.

What Hisanaga teaches.

Hisanaga teaches a data transmission system in which a data sending unit 1 communicates with a data receiving unit 2 over a transmission medium 4. Many sending units may communicate over the transmission medium 4 with the data receiving unit 2. The data receiving unit 2 has a built-in controller which controls the timing at which the data sending units 1 may send data to the data receiving unit 2.

The control unit 3 response to requests, from the sending units 1, for changes in allotted bandwidth and sets the bandwidth allotted to each sending unit 1 so as to avoid contention. The bandwidth controlled by control unit 3 is the bandwidth of the transmission medium 4 that is between the sending units 1 and the receiving unit 2.

How the claims as now amended distinguish over Hisanaga.

The invention defined by the claims, as now amended, is different. Applicant has amended the claims to make more clear the distinctions that are now described.

In the present invention, a DTE sends data to a DRE for subsequent transmission over another network (referred to as a second network in the claims, this network could be the Internet, for example). The DRE is an edge node of the other network.

The service level that the invention is concerned with is that of the sending of the data over the other network, and not necessarily the network that connects the DTE to the DRE.

To make this distinction more explicit, applicant herein amends all of the independent claims as shown in the appendix. In particular, applicant points out that the claims as now amended include requirements explicitly indicating that the data from the DTE is being

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communicated by the DRE over the second network, and that the service level pertains to that communication by the DRE of the data sent from the DTE for the second network. Furthermore, the claims require that various indications between the DTE and DRE, pertaining to the service level, are sent as IPCP messages. In particular, applicant draws the Examiner's attention to page 2, beginning at line 10, in which is mentioned that the invention can be implemented by providing new options in the IPCP that forms part of the point-to-point protocol (PPP).

In view of the amendments to the claims, applicant respectfully submits that the claims 3-11 patentably distinguish over Hisanaga. Hisanaga's teaching of a centrally controlled network cannot now be said to meet the above identified requirements of the independent claims, and would not have rendered unpatentable or anticipated the invention defined by these claims within the meaning of 35 USC §§ 102 or 103.

The artisan of ordinary skill would not have (and could not have) been led by the teachings of Hisanaga to the invention now defined by any of the independent claims. Additional, untaught modifications would have been necessary.

For all of the foregoing reasons, therefore, applicant respectfully requests the Examiner to withdraw this rejection of claims 3-10, and to withdraw the rejection as it may pertain to new claims 11 and 12 which are substituted for original claims 1 and 2.
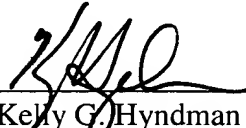
Conclusion and request for telephone interview.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. § 1.111
APPLICATION NO. 09/384,422
ATTORNEY DOCKET NO. Q55464

The USPTO is directed and authorized to charge all required fees, except for the Issue

Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any

overpayments to said Deposit Account.

Respectfully submitted,

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WASHINGTON OFFICE

23373

PATENT TRADEMARK OFFICE

Date: March 4, 2003

APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION.

Page 5, the paragraph beginning at line 10 and continuing through line 19.

The service level request reception means SLR_Re_M has an input-terminal that is at the same time an input-terminal I_2 of the data receiving element DRE and an output-terminal that is coupled to an input-terminal of the service level negotiating and proposing means SL_NP_M that in its turn is coupled with an output-terminal to an input-terminal of the service level request reception means SLR_Re_M. The service level proposal sending means SLP_S_M has an output-terminal that is at ~~he~~ the same time an output-terminal O_3 of the data receiving element DRE. Then the data receiving means DRM contains an input-terminal that is at the same time an input-terminal I_3 of the data receiving element DRE.

IN THE CLAIMS:

Please cancel claims 1 and 2, without prejudice or disclaimer, and substitute therefor new claims 11 and 12.

3. (Amended) ~~Data~~ A data transmitting element (DTE)~~,~~ to be used for sending data, over a link through a first communications network, towards a data receiving element (DRE) for communication of said data over a second communications network, said ~~data transmitting element~~ DTE comprising ~~the following means~~:

a. ~~—~~ data sending means (DSM), adapted to send said data towards said ~~data receiving element DRE, CHARACTERISED IN THAT SAID data transmitting element (DTE) further comprises the following means:~~

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b.—service level requesting means (SL~R~M), adapted to request for generating an Internet

Protocol Control Protocol (IPCP) message, for sending to said data receiving element (

DRE,) for requesting a service level for sending communicating said data of said DTE

over said second communications network using an Internet Protocol Control Protocol

message; and

c.—service level propose proposal receiving means (SLPRM), : coupled with

an output to an input of said data sending means (DSM), and

adapted to receive from said DRE an Internet Protocol Control Protocol propose for said

IPCP message indicating a proposed service level that said DRE can provide for

communicating said data of said DTE over said second communications network, and

to notify

notifying said data sending means (DSM) of said propose for said service level

proposal.

4.   (Amended) The Data transmitting element (DTE) according to claim 3,

CHARACTERISED IN THAT SAID data transmitting element (DTE), further comprises a

comprising service level propose proposal renegotiating means (SLP~RNJM), coupled between

an output terminal of said service level propose proposal receiving means (SLP~RM) and an

input terminal of said service level requesting means, (SLfl~M) and adapted to check if for said

Internet Protocol Control Protocol propose for said service level is satisfying and if not, to

formulate generating another request for said IPCP message requesting a service level, different

from the proposed service level indicated in said IPCP message from said DRE, in response to an

indication that said proposed service level is not a satisfying service level.

5.   (Amended) Data A data receiving element (DRE), to be used for receiving data from a

data transmitting element (DTE), over a link through a first communications network, and

communicating said data over a second communications network ~~from a data transmitting~~
~~element (DTE)~~, said ~~data receiving element (~~ DRE ~~)~~ comprising ~~the following means~~:

    a. ~~data~~ receiving means (DRM), adapted to receive <u>said</u> data from said ~~data transmitting~~
~~element, CHARACTERISED IN THAT SAID data receiving element (DRE) further~~
~~comprises the following means:~~ <u>DTE</u>;

    b. service level request reception means ~~(SLR_Re_M), adapted to receive~~ <u>for receiving an</u>
<u>Internet Protocol Control Protocol (IPCP) message, from said DTE, indicating</u> a <u>requested</u>
service level ~~request from said data transmitting element (~~ <u>for said communicating of said</u>
<u>data of said</u> DTE ~~) using an Internet Protocol Control Protocol message~~ <u>over said second</u>
<u>communications network</u>;

    c. service level negotiating and proposing means ~~(SL_NP_M)~~, coupled with ~~an input to an~~
~~output of~~ said service level request reception means ~~(SLR_Re_M) and adapted to~~
~~determine~~ <u>, for determining</u> a service level <u>that said DRE can provide for communicating</u>
<u>said data of said DTE with said second communications network,</u> based on at least one
predetermined criterion <u>and on said requested service level,</u> and ~~to formulate a propose for~~
<u>formulating, as a service level proposal, an IPCP message indicating</u> said <u>determined</u>
service level; <u>and</u>

    d. service level proposal sending means ~~(SLP_SM)~~, coupled with ~~an input to an output of~~ said
service level negotiating and proposing means<u>, for</u> ~~(SLNP_M) and adapted to send~~ <u>sending</u>
said ~~propose for said service level using an Internet Protocol Control Protocol message~~
<u>IPCP message as said service level proposal</u>.

6.   (Amended) ~~Data~~ <u>A data</u> receiving element (DRE), to be used for receiving data <u>from a</u>
<u>data transmitting element (DTE)</u>, over a link through a <u>first</u> communications network<u>, and</u>
<u>communicating said data over a second communications network</u> ~~from a data transmitting~~
~~element (DTE)~~, said ~~data receiving element (~~ DRE ~~)~~ comprising ~~the following means~~:

a.—data receiving means (DRM), adapted to receive said data from said ~~data transmitting element, CHARACTERISED IN THAT SAID data receiving element (DRE) further comprises the following means:~~ DTE;

b.—service level negotiating and proposing means ~~(SLNPM)~~, ~~adapted to determine~~ , for determining a service level that said DRE can provide for communicating said data of said DTE with said second communications network, based on at least one predetermined criterion and on said requested service level, and ~~to formulate a propose for~~ formulating, as a service level proposal, an IPCP message indicating said determined service level; and

c.—service level proposal sending means ~~(SLP_SM)~~, coupled with ~~an input to an output of~~ said service level negotiating and proposing means, for ~~(SLNP_M) and adapted to send~~ sending said ~~propose for said service level using an Internet Protocol Control Protocol message~~ IPCP message as said service level proposal .

7. (Amended) ~~Software~~ A software module for running on a processing system for inclusion in a data transmitting element (DTE), for sending data, over a link through a first communications network, towards a data receiving element (DRE) for communication of said data over a second communications network, said software module comprising ~~the following sub-modules~~:

a.—a data sending sub-module, adapted to send said data towards said ~~data receiving element~~ DRE, ~~CHARACTERISED IN THAT SAID software module further comprises the following sub-modules:~~;

b.—a service level requesting sub-module, ~~adapted to request~~ for generating an Internet Protocol Control Protocol (IPCP) message, for sending to said ~~data receiving element (~~ DRE, ~~) for~~ requesting a service level for ~~sending~~ communicating said data of said DTE over said second communications network ~~using an Internet Protocol Control Protocol message~~; and

c.—a service level ~~propose~~ proposal receiving sub-module, :

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adapted to receive from said DRE an ~~Internet Protocol Control Protocol propose for said~~ IPCP message indicating a proposed service level <u>that said DRE can provide for communicating said data of said DTE over said second communications network,</u> and ~~to notify~~

<u>notifying</u> said data sending sub-module of ~~said propose for~~ said service level <u>proposal.</u>

8.   ~~Software~~ <u>The software</u> module according to claim 7, ~~CHARACTERISED IN THAT SAID software module,~~ further ~~comprises~~ <u>comprising</u> a service level ~~propose~~ <u>proposal</u> renegotiating sub-module, co-operating with said service level ~~propose~~ <u>proposal</u> receiving sub-module and said service level requesting sub-module, ~~and adapted to check if~~ <u>for</u> ~~said Internet Protocol Control Protocol propose for said service level is satisfying and if not, to formulate~~ <u>generating</u> another ~~request for said~~ <u>IPCP message requesting a service level, different from the proposed</u> service level <u>indicated in said IPCP message from said DRE, in response to an indication that said proposed service level is not a satisfying service level.</u>

9.   (Amended) ~~Software~~ <u>A software</u> module for running on a processing system for inclusion in a data receiving element (DRE), for receiving data <u>from a data transmitting element (DTE),</u> over a link through a <u>first</u> communications network<u>, and communicating said data over a second communications network</u> ~~from a data transmitting element (DTE),~~ said software module comprising ~~the following sub-modules~~:

a.   ~~a~~ data receiving sub-module, adapted to receive <u>said</u> data from said ~~data transmitting element (DTE), CHARACTERISED IN THAT SAID software module further comprises the following sub-modules:~~ <u>DTE;</u>

b.   ~~a~~ service level request reception sub-module, ~~adapted to receive~~ <u>for receiving</u> an Internet Protocol Control Protocol (IPCP) message, from said DTE, indicating a <u>requested</u> service level ~~request from said data transmitting element (~~ <u>for said communicating of said data of</u>

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said DTE) using an Internet Protocol Control Protocol message over said second communications network;

c. a service level negotiating and proposing sub-module, co-operating with said service level request reception sub-module and adapted to determine , for determining a service level that said DRE can provide for communicating said data of said DTE with said second communications network, based on at least one predetermined criterion and on said requested service level, and to formulate a propose for formulating, as a service level proposal, an IPCP message indicating said determined service level; and

d. a service level proposal sending sub-module, co-operating with said service level negotiating and proposing sub-module, for (SLNP_M) and adapted to send sending said propose for said service level using an Internet Protocol Control Protocol message IPCP message as said service level proposal.

10. (Amended) Software A software module for running on a processing system for inclusion in a data receiving element (DRE), for receiving data from a data transmitting element (DTE), over a link through a first communications network, and communicating said data over a second communications network from a data transmitting element (DTE), said software module comprising the following sub-modules:

a. a data receiving sub-module, adapted to receive said data from said data transmitting element (DTE), CHARACTERISED IN THAT SAID software module further comprises the following means: DTE;

d. a service level negotiating and proposing sub-module, adapted to determine for determining a service level that said DRE can provide for communicating said data of said DTE with said second communications network, based on at least one predetermined criterion and on said requested service level, and to formulate a propose for formulating, as a service level proposal, an IPCP message indicating said determined service level; and

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e. ~~a~~ service level proposal sending sub-module, co-operating with said service level negotiating and proposing sub-module ~~and adapted to send,~~ for sending said ~~propose for said service level using an Internet Protocol Control Protocol message~~ IPCP message as said service level proposal.